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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/824,093	04/14/2004	Otto N. Fanini	414-15493-USD1	6150
24923	7590	05/04/2006	EXAMINER	
PAUL S MADAN MADAN, MOSSMAN & SRIRAM, PC 2603 AUGUSTA, SUITE 700 HOUSTON, TX 77057-1130			AURORA, REENA	
			ART UNIT	PAPER NUMBER
			2862	

DATE MAILED: 05/04/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/824,093

Applicant(s)

FANINI ET AL.

Examiner

Reena Aurora

Art Unit

2862

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 27 February 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 21 - 29 and 36 - 45 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 21 - 29 and 36 - 45 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

### DETAILED ACTION

This communication is in response to amendment received on 02/27/06.

Claim 21 – 29 and 36 – 45 are presented for examination.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 21, 22 and 24 - 29 are rejected under 35 U.S.C. 102(b) as being anticipated by Strack et al. (6,147,496).

As to claims 21, 22 and 24, Strack et al. (hereinafter Strack) discloses a method for determining electrical conductivity of a laminated earth formation, the method comprises conveying a multi-component resistivity logging tool (9, fig. 1) into a borehole (1) in a selected layer (3) the formation (3, 5, 7) and using at least one transmitter receiver combinations (18, 19) and providing a measurement having selective sensitivity to the parameter of interest (col. 3, line 59 – col. 4, line 27).

As to claim 25, Starck discloses providing a measurement at a plurality of frequencies and using the measurement at the plurality of frequencies for determining the parameter of interest (col. 4, lines 28 - 50).

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As to claims 26 – 29, Strack discloses performing multi-component transmitter receiver array measurements at different orthogonal and non-orthogonal orientations (col. 5, lines 19 - 34).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 23 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Strack et al. (6,147,496) in view of Hagiwara et al. (6,181,138).

As to claims 23 and 36, Strack fails to disclose that measurement of a multi-component array combined with measurement of at least one of a gyro, accelerometer, magnetometer and inclinometer. Hagiwara et al. (hereinafter Hagiwara) discloses directional resistivity measurements wherein Hagiwara further discloses well bore directional measurements can be made using accelerometer or magnetometer (col. 6, lines 15 - 27). Therefore, it would have been obvious to one having ordinary skill in the art at the time of invention to modify the device of Strack in view of Hagiwara to include a accelerometer or magnetometer for accurately providing the directional measurements.

Claims 37 - 45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Strack et al. (6,147,496) in view of Hagiwara et al. (6,181,138) as applied to claim 21 above, and further in view of Clark et al. (6,297,639).

As to claims 37 – 45, Strack fails to show a first aperture shaped to focus a magnetic field for a first coil associated with the first aperture. Clark et al. (hereinafter Clark) discloses a method and apparatus for directional well logging with a shield having sloped slots having a first aperture (12, fig. 3 and 4) shaped to focus a magnetic field for a first coil (11). Therefore, it would have been obvious to one having ordinary skill in the art at the time of invention to modify the device of Strack et al. (6,147,496) in view of Clark to provide an aperture shaped to focus magnetic field for a first coil to provide optimum shielding effect.

### ***Response to Arguments***

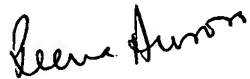
Applicant's arguments with respect to claims 21 – 29 and 36 - 45 have been considered but are moot in view of the new ground(s) of rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Reena Aurora whose telephone number is 571-272-2263. The examiner can normally be reached on Monday - Friday, 7:00 - 3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, E. Lefkowitz can be reached on 571-272-2180. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read "Reena Aurora", is positioned above the printed name.

Reena Aurora